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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/293,669 | 04/16/1999 | BRETT J. DOLEMAN | 018564-00211 | 5175 |

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| EXAMINER |
|---|
| HANDY, DWAYNE K |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1743 | 7 |

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

7/1-7

# Office Action Summary

| Application No. | Applicant(s) |
|---|---|
| 09/293,669 | Doleman et al. |
| **Examiner** | **Art Unit** |
| Dwayne K. Handy | 1743 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) ☒ Responsive to communication(s) filed on *Apr 11, 2002*

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

4) ☒ Claim(s) *9-15 and 17* is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *9-15 and 17* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

**Application Papers**

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

15) ☐ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross et al. (5,761,090). Gross recites methods and an apparatus for monitoring an industrial process and the sensor that does the monitoring. The Examiner refers applicant to the claims in which Gross recites the steps of "operating at least a first and second sensor to redundantly detect at least one physical variable of the industrial process to provide a first signal from said first sensor and a

second signal from said second signal from said second sensor, each said signal being characteristic of the one physical variable". After this step, Gross cites several steps of evaluating and operating on the data to test the sensor function finally resulting in the issuance of an alarm if their is a problem with the sensor. The Examiner would consider the matching of the data of the signal to proper response of the sensor as recited by Gross to be a teaching of validating the sensor response as able to mimic the human nose. Gross also does not recite vapor pressures as the known property as does applicant. It would be obvious to one of ordinary skill in the art that a known quantity of a compound at a given pressure exhibits a partial pressure which can be measured. Therefore, the Examiner would consider measuring this physical property to be obvious to one of ordinary skill in the art.

4. Claims 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gross in view of Lewis et al. (5,571,401). As stated above, Gross teaches a method of testing and determining the status of a sensor in an industrial process. Gross does not teach the interrogation of a sensor with the particular physical elements as claimed by applicant. Lewis teaches these elements including a chemiresistor made of conducting and non-conducting regions of organic polymers. Specific polymers for use in the device and the analytes they detect are cited in Table 2 and col. Lewis, in reciting the many uses of their sensor, include using the array in commercial applications such as "...environmental toxicology and remediation, biomedicine, materials quality control, food and agricultural products monitoring, etc." (col. 8, lines 2-5). It

would be obvious to one of ordinary skill in the art to combine the teachings of Gross with the sensor of Lewis. If one were going to use a sensor in a manufacturing process to provide quality control, one would want to be sure that the sensor worked!

***Response to Arguments***

5. In response to applicant's arguments submitted 4/12/02, the Examiner has removed the rejections under U.S.C. 101 and U.S.C.112 2nd paragraph. The original rejection under U.S.C. 102 have also been lifted as well. Applicant amended claim 9 to recite "a method for validating a sensor array detection ability mimics that of the human nose". This was sufficient to remove the questions the Examiner had about the utility of the device. The Examiner would consider a validation method to have utility.

Applicant has also cited changes in claim language in their arguments which the Examiner agrees will remove the rejection under U.S.C. 112, 2nd paragraph. For examination purposes, the Examiner referred to applicant's definition of "detection ability" to be the ability of the sensor array to detect an odorant. That is, if the sensor can detect an analyte, it would meet this limitation.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Goldschmidt (5,499,023) and Schatzmann et al. (5832,411) teach methods of interrogating sensor arrays automatically. Qin et al. (6,356,857) shows a sensor validation method.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dwayne K. Handy whose telephone number is (703)-305-0211. The examiner can normally be reached on Moday-Friday from 7:30 to 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden, can be reached on (703)-308-4037. The fax phone number for the organization where this application or proceeding is assigned is (703)-772-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0661.

Jill Warden
Supervisory Patent Examiner
Technology Center 1700

dkh

June 28, 2002